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- Submitted data:
 - receive unique data citation & persistent identifier
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- Chose a collection to submit your e.g., Diffusion Data Collection
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- [Huesler Phases: First Principle Simulations](#)
- [NIST/DOE-EERE Advanced Automotive Cast Magnesium Alloys](#)
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Describe Data Files

Authors:

[Add](#)

Last name, e.g. Smith

First name(s) + "middle initial", e.g. Donald J.

☐ Fradin, F.Y.

☐ Rowland, T.J.

[Remove selected](#)

Affiliations:

[Add](#)

☐ Department of Mining, Metallurgy and Petroleum Engineering, University of Illinois, Urbana, Illinois Materials Research Laboratory, University of Illinois, Urbana, Illinois

Title:

Publication Title or data description.

Al Self-Diffusion

Primary Publication Citation:

Publication based on the files you are uploading that did include these files when the paper was published.

Fradin, F. Y. and Rowland, T. J. (1967) NMR MEASUREMENT OF THE DIFFUSION COEFFICIENT

DOI:

<http://dx.doi.org/10.1063/1.1755100>

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Recommendations to Authors:

Consider having a ReadMe file in a plain text file to describe the submitted files and analysis performed.

Information to include:

- *Who collected the data and whom to contact with questions
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Identify:

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Review Submission

Describe Data Files

Authors:

Fradin, F.Y.

Authors:

Rowland, T.J.

Affiliations:

Department of Mining, Metallurgy and Petroleum Engineering, University of Illinois, Urbana, Illinois Materials Research Laboratory, University of Illinois, Urbana, Illinois

Title:

Al Self-Diffusion

Primary Publication Citation:

Fradin, F. Y. and Rowland, T. J. (1967) NMR MEASUREMENT OF THE DIFFUSION COEFFICIENT OF PURE ALUMINUM, Appl. Phys. Lett. 11, 207

DOI:

<http://dx.doi.org/10.1063/1.1755100>

Type of Data to be uploaded (as many as apply):

Data file

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Describe Data Files

Keywords:

Computational File Repository Categories::PROPERTY CLASSES::Kinetics::Diffusion::Tracer Diffusion

Keywords:

Chemical diffusion (Interdiffusion)

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Data
Citation &
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NIST Repositories → NIST Experimental Data Repository → Diffusion Data → View Item


Data Citation:
Rowland, T. J.; Fradin, F. Y.
Al Self-Diffusion Fradin, Rowland 1967
(2013-10-01)
<http://hdl.handle.net/11115/149>

Affiliation: Department of Mining, Metallurgy and Petroleum Engineering, University of Illinois, Urbana, Illinois
Materials Research Laboratory, University of Illinois, Urbana, Illinois
Contact Email: carelyn.campbell@nist.gov

Primary Publication Citation:
Fradin, F. Y. and Rowland, T. J. (1967) NMR MEASUREMENT OF THE DIFFUSION COEFFICIENT OF PURE ALUMINUM, Appl. Phys. Lett. 11, 207
<http://dx.doi.org/10.1063/1.1755100>


Abstract:
Using a radio-frequency field pulse technique which enables measurement of slow atomic diffusion by means of nuclear magnetic resonance we have obtained, for nominally 6–9's pure Al, an activation energy for self-diffusion of 28.75 ± 0.8 kcal/mole. Data was obtained over a range of 5 decades in atomic jump rate (240°C to 550°C) and joins smoothly with other diffusion coefficient measurements at the extremes. © 1967 The American Institute of Physics

Files in this item

	Name: Fradin-Rowland-19 ... Size: 10.33Kb Format: Microsoft Excel 2007 Description: Al self-diffusion data reported by Fradin and Rowland 1967	View/Open
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This item appears in the following Collection(s)

- [Diffusion Data](#)

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Data Citation:

Demon, F. J.; Kalbitzer, S.; Mannsperger, H.; Damjantschitsch, H.
Study of Si self-diffusion by nuclear techniques
(2014-02-10)

<http://hdl.handle.net/11115/237>

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